

A eutherian mammal in the latest Cretaceous of Vitrolles, southern France

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In Europe, the fossil record of the eutherian mammals is very scanty for the Late Cretaceous, as only two genera, documented by isolated teeth, are presently recorded in France and in Spain. Both genera, *Labes* and *Lainodon*, are considered to be representatives of the 'zhelestids', a paraphyletic unit regarded as being at the origin of Cenozoic ungulates within the Ungulatomorpha clade. We here describe *Valentinella vitrollense* gen. et sp. nov. from Vitrolles la Plaine (Maastrichtian, southern France). This species, represented by fragmentary remains of lower and upper dentitions, is tentatively assigned to the 'zhelestids' according to the hypoconulid-entoconid twinning and the antero-posteriorly short trigonid on m1-3. The occlusal surfaces are obliterated by dental attrition, but *Valentinella* could be an evolved 'zhelestid', more derived than *Labes* and *Lainodon* by its fully compressed trigonid. *Valentinella* is similar to *Gallolestes* by other derived characters such as a crushing specialization of the teeth, associated with a probably molariform p4 (or dp4) and slightly reduced m3. The enamel microstructure, showing a radial prismatic pattern combined with a reduced interprismatic matrix, in which cristallites are oriented at about 45° to the prisms axes, appears compatible with the ancestral morphotype for all ungulates; although no synapomorphy can be proposed for the ungulatomorphs.

Key words: Mammalia, Eutheria, "Zhelestidae", enamel microstructure, Cretaceous, France.

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